



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786)315-2590 F (786) 31525-99

www.miamidade.gov/economy

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Johns Manville Modified Bitumen Roofing Systems over Wood Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 13-0529.14 and consists of pages 1 through 26.
The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 16-0413.17
Expiration Date: 07/19/21
Approval Date: 07/14/16
Page 1 of 26

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Materials: SBS
Deck Type: Wood
Maximum Design Pressure: -82.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
JM BaseGrip SD/SA	36" x 72'	ASTM D4601	Glass reinforced, self-adhering SBS modified bitumen base sheet
DynaBase	39-3/8" x 49'2"	ASTM D 6163	A glass reinforced SBS modified bitumen base sheet.
DynaBase HW	39-3/8" x 49'2"	ASTM D 6163	A glass reinforced SBS modified bitumen base sheet for heat welded applications.
DynaBase PR	39-3/8" x 49'2"	ASTM D6164	A polyester reinforced SBS modified bitumen base sheet.
DynaBase XT	39-3/8" x 49'-2"	ASTM D 6163	A glass reinforced SBS modified bitumen base or inner ply sheet.
DynaFast 180 HW	39-3/8" x 49'2"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaFast 180 S	39-3/8" x 49'2"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaFast 250 HW	39-3/8" x 32'10"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaGlas	39-3/8" x 32'-10"	ASTM D6163	A glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGlas 30 FR	39-3/8" x 32'-10"	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGlas FR	39-3/8" x 32'-10"	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGlas FR CR	39-3/8" x 32'-10";	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.
DynaGlas FR CR G	39-3/8" x 32'10"	ASTM D 6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules and cool roof coating.
DynaGlas FR XT	39-3/8" x 32'-10"	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules.
DynaGrip Base SD/SA	39-3/8" x 65'-7"	ASTM D4601	Glass reinforced, self-adhering SBS modified bitumen base sheet

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
DynaKap FR T1	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaKap FR T1 CR G	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules and cool roof coating.
DynaKap FR T1 HW CR G	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules with cool roof coating for use in heat weld applications.
DynaLastic 180	39-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR CR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 180 FR CR G	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and cool roof coating.
DynaLastic 180 S	39-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaLastic 250 FR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules.
DynaLastic 250 FR CR	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating.
DynaLastic 250 FR CR G	39-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules, cool roof coating and a reflective white coating.
DynaLastic 250 S	39-3/8" x 32'-10"	ASTM D 6164	A polyester reinforced SBS modified bitumen base or inner ply sheet.
DynaMax FR	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR CR	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR Plus	39-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax S	39-3/8" x 32'-10"	ASTM D6162	A composite reinforced SBS modified bitumen base or inner ply sheet.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
DynaMax FR HW	39'-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaMax FR HW CR	39'-3/8" x 32'-10"	ASTM D6162	A fire resistant, composite reinforced SBS modified bitumen membrane surfaced with granules.
DynaPly T1	39'-3/8" x 32'-10"	ASTM D6162	A composite reinforced SBS modified bitumen base or inner ply sheet.
DynaWeld 180 S	39'-3/8" x 32'-10"	ASTM D6162	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaWeld 250 S	39'-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen base or inner ply sheet for use in heat weld applications.
DynaWeld Base	39'-3/8" x 32'-10"	ASTM D6163	A glass reinforced SBS modified bitumen base sheet for heat welded applications.
DynaWeld Cap	39'-3/8" x 32'-10"	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 180 FR	39'-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 180 FR CR	39'-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 250	39'-3/8" x 32'-10"	ASTM D6164	A polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 250 FR	39'-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap 250 FR CR	39'-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.
DynaWeld Cap 250 FR CR G	39'-3/8" x 32'-10"	ASTM D6164	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules, cool roof coating and a reflective white coating for use in heat weld applications.
DynaWeld Cap FR	39'-3/8" x 32'-10"	ASTM D6163	A fire resistant, glass reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
DynaWeld Cap FR CR	39'-3/8" x 32'-10"	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules and a reflective white coating for use in heat weld applications.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
DynaWeld Cap FR CR G	39'-3/8" x 32' 10"	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules, cool roof coating and a white reflective coating for use in heat weld applications.
DynaWeld Cap FR XT	39'-3/8" x 32' -10"	ASTM D6163	A fire resistant, polyester reinforced SBS modified bitumen membrane surfaced with granules for use in heat weld applications.
GlasBase Plus	36" x 108'	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
GlasKap	36" x 36'	ASTM D3909	A mineral surfaced, asphalt coated, fiberglass cap sheet.
GlasKap CR	36" x 36'	ASTM D3909	A white mineral surfaced, white acrylic coated, fiberglass cap sheet.
GlasKap Plus	36" x 36'	ASTM D3909	A mineral surfaced, asphalt coated, fiberglass cap sheet.
GlasPly IV	36" x 180'	ASTM D2178	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
GlasPly Premier	36" x 180'	ASTM D2178	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
PermaPly 28	36" x 106'	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
Ventsulation Felt	36" x 36'	ASTM D4897	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without fine mineral stabilizer. Surfaced on the bottom side with coarse mineral granules embedded in asphaltic coating.
FesCant Plus Cant Strips, and Taper Edge	various	ASTM C728	Factory pre-fabricated cant strips and taper edge, manufactured from expanded perlite insulation.
MBR Flashing Cement Base and Activator	N/A	Proprietary	A two component elastomeric, cold application adhesive, consisting of a modified proprietary compound with an asphalt base.
MBR Bonding Adhesive	N/A	proprietary	A two component urethane cold application adhesive.
MBR Cold Application Adhesive	5, 55, and 350 gal.	ASTM D3019 Type III	One part, elastomeric cold application adhesive
JM Roofing System Urethane Adhesive	Various	Proprietary	A two-component, cold-applied adhesive

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
JM Two Part Urethane Insulation Adhesive	Various	Proprietary	A two-component, cold-applied adhesive
Bestile Industrial Roof Cement	various	ASTM D4586 Type I	A trowel grade, cutback bitumen flashing grade cement mixture including inorganic fibers and mineral stabilizers.
Flex-I-Drain	various	BOCA 76-61, SBCCI 89204, UBC 3236	Two piece flexible drain system composed of a Noryl deck flange, a flexible neoprene bellows and no hub connection. Available in various sizes and styles for most retro-fit applications.
PC/PET RetroDrain	various	N/A	Engineered resin copolymer fabricated drain for retrofit applications.
USII RetroDrain	various	N/A	One piece, aluminum fabricated drain for retrofit applications.
SuperDome RetroDrain	various	N/A	Cast aluminum, heavy-duty drain for retrofit applications.
FP-10 Vents	10" deck flange, base diameter of 4" and a height of 6"	N/A	One-way roof vent, designed for use in various roof systems, for the release of pressure created by gases or moisture vapor trapped within the roofing system.
Expand-O-Guard	various	N/A	Elastomeric expansion joint cover for vertical expansion and seismic joints. Manufactured from non-reinforced, form-supported elastomeric bellows with a bifurcated waterproof attachment to metal flanges.
Expand-O-Flash	various	N/A	Expansion joint covers manufactured from non-reinforced, form-supported elastomeric bellows with a bifurcated waterproof attachment to metal flanges.
Presto-Lok Fascia and Flashing System	various	TAS 114	A multi-piece fascia and flashing system for built-up and modified bitumen roofing systems manufactured from aluminum or steel.
DynaTred & DynaTred Plus Roof Walkway	various	N/A	Preformed, skid-resistant boards.

APPROVED INSULATIONS:**TABLE 2**

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3.E	Isocyanurate Insulation.	Johns Manville
ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI	Isocyanurate Insulation with glass reinforced facers	Johns Manville
ENRGY 3 FR, ENRGY 3 FR 25 PSI	Isocyanurate Insulation with inorganic coated glass reinforced facers; bottom face is premium coated for combustible decks.	Johns Manville
Fesco Foam, DuraFoam	Isocyanurate Insulation with perlite facer	Johns Manville
Retro-Fit Board, DuraBoard, RetroPlus Roof Board	A high-density perlite roof insulation.	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Invinsa Roof Board, Invinsa FR Roof Board	High density polyisocyanurate board	Johns Manville
JM SECUROCK Gypsum-Fiber Roof Board	Rigid, gypsum-based board stock	Johns Manville
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum, LLC



APPROVED FASTENERS:

TABLE 3				
Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	UltraFast Fastener	Insulation fastener for wood and steel.	Various	Johns Manville
2.	UltraFast ASAP	Pre-assembled Insulation fastener and plate	Various	Johns Manville
3.	UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate	Galvalume AZ55 steel plate	3" square & 3" round	Johns Manville
4.	High Load Fasteners	Insulation and membrane fastener for steel, wood, or concrete	#15 x 14" max.	Johns Manville
5.	High Load Plate	Seam plate with reinforcing ribs and eyehooks	2-3/8" round steel plate	Johns Manville
6.	High Load LH	#15 Large Head fastener for steel, wood, or concrete	#15 x 14" max.	Johns Manville
7.	Polymer Membrane Batten	Plastic membrane batten strips	1" x 250' coil	Johns Manville
8.	APB Plates	Seam plate with reinforcing ribs and barbs	2" round	Johns Manville
9.	Trufast Deep Well Coiled Batten Bar	galvalume coated steel membrane batten	1" x 100' coil	Altenloh, Brink & Co. U.S., Inc.

EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Underwriters Laboratories, Inc.	R10167	UL 790	05/27/13
Factory Mutual Research	3001482	FM 4470	08/11/98
	3001629	FM 4470	09/10/98
	0Z8A9.AM	FM 4470	09/10/98
	3D4A4.AM	FM 4470	09/28/98
	3009499	FM 4470	04/04/01
	3007148	FM 4450	04/19/00
	3011248	FM 4470	11/01/02
	3001457	FM 4470	04/04/02
	3014090	FM 4470	09/05/02
	3012974	FM 4450	06/03/02
	3026130	FM 4470	04/26/09
	3037540	FM 4470	10/20/10
	3053754	FM 4470	03/04/15
	3040986	FM 4470	09/23/11
	3052113	FM 4470	08/29/14
Exterior Research & Design	#10390A-12.97-1	TAS 114	12/00/97
	10391.01.03	TAS 114	01/29/03
	00257.03.05-1	ASTM D6162/D6163	03/17/05
		ASTM D6164/D6298	
Trinity ERD	J7670.06.08	ASTM D3909	06/16/08
	J6990.12.07-R1	ASTM D6162/D6164	03/24/10
	J13700.05.10-1-R1	ASTM D6163	01/25/11
	J17040.11.09-R1	ASTM D6164	03/11/10
	J45020.07.13	TAS 114	07/12/13
IRT, Inc.	#99004	TAS 114	03/00/99
Atlantic & Caribbean Roof Consulting, LLC	ACRC 06-005	TAS 114	03/27/06
IRT-ARCON Inc.	02-026	TAS 114	07/26/02
	02-011		02/06/02
PRI Construction Materials Technologies, LLC	JMC-063-02-01	ASTM D6163	06/11/12
	JMC-065-02-01	ASTM D6163	05/29/12
	JMC-066-02-01	ASTM D6163	06/04/12
	JMC-069-02-01	ASTM D3909	06/04/12
	JMC-070-02-01	ASTM D2178	04/17/12
	JMC-071-02-01	ASTM D2178	04/17/12
	JMC-072-02-02.1	ASTM D4601	05/25/16
	JMC-074-02-01	ASTM D4897	04/17/12
	JMC-075-02-04.3	ASTM D6164	03/29/16
	JMC-076-02-02	ASTM D4601	04/17/12
	JMC-078-02-01	ASTM D6298	07/17/12
	JMC-081-02-01.02	TAS 117 B & C	06/11/12
	JMC-091-02-01.1	ASTM D4601	05/26/16
	JMC-093-02-01	ASTM D4601	08/02/12

EVIDENCE SUBMITTED: (CONTINUED):

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
PRI Construction Materials Technologies, LLC	JMC-105-02-02 Rev 1	ASTM D6162	05/22/13
	JMC-108-02-01	TAS 114 (J)	04/16/13
	JMC-106-02-01	ASTM D6164	04/15/13
	JMC-126-02-01	TAS 114 (J)	04/17/13
	JMC-141-02-01	TAS 114 (J)	04/18/13
	JMC-107-02-01.7	ASTM D903/D1876/D5147 TAS 114(C)/TAS 117 A & B	03/31/16
	JMC-113-02-01	ASTM D6164	04/19/13
	JMC-147-02-01	ASTM D4601	05/28/13
	JMC-171-02-01	ASTM D6163	01/10/14
	JMC-171-02-02	ASTM D6163	01/10/14
	JMC-171-02-03	ASTM D6164	01/10/14
	JMC-171-02-04.1	ASTM D6163	05/26/16
	JMC-171-02-07.1	ASTM D6164	05/26/16
	JMC-171-02-10	ASTM D6162	01/10/14
	JMC-171-02-11	ASTM D6164	03/14/14
	JMC-227-02-01.3	ASTM D6162	06/29/16
	JMC-234-02-01.2	ASTM D6162	06/29/16
	JMC-234-02-02	ASTM D6163	04/29/15
	JMC-234-02-03.1	ASTM D6163	05/26/16
	JMC-234-02-04	ASTM D6162	03/23/16
	JMC-234-02-05	ASTM D6164	04/29/15
	JMC-234-02-06.1	ASTM D6164	05/26/16
	JMC-238-02-01.1	ASTM D6163	06/29/16
	JMC-238-02-03	ASTM D6164	12/01/15
	JMC-238-02-04	ASTM D6162	03/31/16
	JMC-242-02-01	TAS 114 (J)	11/18/15
	JMC-243-02-01	ASTM D5147/D4798	02/29/16
	ADCO-001-02-01	Physical Properties	06/16/13

APPROVED ASSEMBLIES

Membrane Type:	SBS
Deck Type II:	Wood, Insulated
Deck Description:	¹⁹ / ₃₂ " or greater plywood or wood plank, fastened with #12-3" Olympic STD screws @ 6" o.c. to wood supports spaced a maximum 24" o.c.
System Type A(1):	Anchor sheet mechanically fastened; all layers of insulation fully adhered with approved asphalt.

All General and System limitations apply.

Anchor Sheet: One ply of GlasPly Premier, PermaPly 28 or Ventsulation Felt fastened to the deck as described below:

Fastening: Anchor sheet shall be lapped 3" and fastened with JM Ultrafast screws and 3" plates, 8" o.c. at the lap and three rows staggered in the center of the sheet 8" o.c.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI		
Minimum 1.3" thick	N/A	N/A
Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Fesco Foam, DuraFoam		
Minimum 1.5" thick	N/A	N/A
Fesco Board		
Minimum ¾" thick	N/A	N/A
Retro-Fit Board, DuraBoard, RetroPlus Roof Board		
Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly 28, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit and RetroPlus only) applied at a rate of 1.5-2.0 gal/sq.

- Ply Sheet: (Optional if base sheet used unless a GlasKap membrane listed in the membrane options is used) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, DynaMax S or DynaPly T1 adhered to the base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal/sq.
Or
One ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
- Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive applied at a rate of 1.5-2.0 gal/sq.
Or
One ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Or
(Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap, GlasKap Plus or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing: (Optional) Install one of the following:
1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq.
2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
- Maximum Design Pressure: -52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type II: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank for new construction, ¹⁵/₃₂" or greater plywood or wood plank attached with minimum 8d ring shank nails spaced 6" o.c. to wood support spaced a maximum 24" o.c.

System Type A(2): Anchor sheet mechanically fastened; all layers of insulation fully adhered with approved asphalt.

All General and System limitations apply.

Anchor Sheet: Two plies of PermaPly 28, DynaBase, GlasBase Plus, or Ventsulation Felt fastened to the deck as described below:

Fastening: Anchor sheet shall be lapped 4" and fastened with UltraFast Fasteners and UltraFast Square Recessed Metal Plate 9" o.c. at the lap and two rows staggered in the center of the sheet 12" o.c.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI		
Minimum 1.3" thick	N/A	N/A
Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Fesco Foam, DuraFoam		
Minimum 1.5" thick	N/A	N/A
Fesco Board		
Minimum ¾" thick	N/A	N/A
Retro-Fit Board, DuraBoard, RetroPlus Roof Board		
Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) One ply of PermaPly 28, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal/sq.

- Ply Sheet: (Optional unless a GlasKap membrane listed in the membrane options is used.)
One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180S, DynaFast 180 S, DynaLastic 250 S, DynaBase, DynaBase PR, DynaBase XT, DynaMax S or DynaPly T1 adhered to the base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive (Retro-Fit or RetroPlus only) applied at a rate of 1.5-2.0 gal/sq.
Or
One ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.
- Membrane: One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or MBR Cold Application Adhesive applied at a rate of 1.5-2.0 gal/sq.
Or
One ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Or
(Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap, GlasKap Plus or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing: (Optional) Install one of the following:
1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq.
2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
- Maximum Design Pressure: -52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 1I: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood over supports spaced 24" o.c. and attached with 10d nails spaced 4" o.c. at panel edges and 8d nails spaced 6" o.c. at center supports or wood plank

System Type B(1): Base layer of insulation mechanically attached, top layer fully adhered with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	1 with 3 or 2	1:1.33 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DuraBoard		
Minimum ½" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft² or with MBR Bonding Adhesive with a notched squeegee at 2 gallons per square. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: (Optional) One ply of PermaPly 28, DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, DynaMax S or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square.

- Ply Sheet: (Optional unless a GlasKap membrane listed in the membrane options is used)
One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaMax S, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S or DynaPly T1 adhered to the a base sheet or insulation top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square or one ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded to a base sheet.
- Membrane: One or more plies of One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR, DynaGlas FR CR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square or one ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Or
(Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap, GlasKap Plus or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing: (Optional) Install one of the following:
1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq.
2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.
- Maximum Design Pressure: -60 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 1I: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood for new construction, ¹⁵/₃₂" or greater plywood for existing construction over wood supports spaced maximum 24" o.c. and attached with minimum 0.113 x 2-3/8" ring shank nails. Sheathing panels attached maximum 6" o.c. along all intermediate supports and at the perimeter.

System Type B(2): Base layer of insulation mechanically attached, top layer fully adhered with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	1 with 3	1:1.33-ft²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
JM SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with JM Roofing System Urethane Adhesive or JM Two Part Urethane Insulation Adhesive and applied in ¾-1" wide beads spaced maximum 12" o.c. . Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW fully bonded by torch adhering with minimum 3" side laps
Or
One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180S, DynaFast 180 S, DynaPly T1, DynaMax S, DynaLastic 250 S applied in hot asphalt within EVT range at a rate of 20-25 lbs/sq. or MBR Cold Application Adhesive at rate of 1.5 gal/sq. with minimum 4" side laps.
Or
One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA self-adhered with a hot asphalt or heat welded ply and/or cap sheet.

Ply Sheet: (Optional) One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW torch adhered with minimum 4" side laps.
Or
One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaLastic 250 S, or DynaMax S fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal/sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq.

Membrane: One ply of DynaWeld Cap, DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering with minimum 4" side laps
Or
One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus fully bonded with MBR Cold Application Adhesive at a rate of 1.5 gal/sq. or asphalt applied in the EVT range at a rate of 20-40 lbs./sq.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 1I: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood for new construction, ¹⁵/₃₂" or greater plywood for existing construction over wood supports spaced maximum 24" o.c. and attached with minimum 0.113 x 2-3/8" ring shank nails. Sheathing panels attached maximum 6" o.c. along all intermediate supports and at the perimeter.

System Type C: All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, ENRGY 3.E		
Minimum 1/2" thick	N/A	N/A

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 2" thick	1 with 3	1:2-ft²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: DynaBase, DynaBase PR, DynaBase XT, DynaLastic 180 S, DynaFast 180 S, DynaPly T1, DynaMax S, or DynaLastic 250 S fully bonded in MBR Cold Application Adhesive applied at a rate of 1.5 gal/sq. with minimum 3" side laps
Or
One ply of DynaGrip Base SD/SA or JM BaseGrip SD/SA fully bonded by self-adhering with minimum 4" side laps.

Ply Sheet: (Optional) One or more plies of DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S, or DynaFast 250 HW torch adhered with minimum 4" side laps.

Membrane: One ply of DynaWeld Cap, DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR fully bonded by torch adhering with minimum 4" side laps

Maximum Design Pressure: -52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type II: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank for new construction, ¹⁵/₃₂" or greater plywood or wood plank fastened with #8 screws @ 6" o.c to wood supports spaced a maximum 24" o.c.

System Type D(1): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, ENRGY 3.E		
Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load LH Fastener and Polymer Membrane Batten or High Load Fastener and Trufast Deep Well Coiled Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type II: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank for new construction, ¹⁵/₃₂" or greater plywood or wood plank fastened with #8 screws @ 6" o.c. to wood supports spaced a maximum 24" o.c.

System Type D(2): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, ENRGY 3.E		
Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 S mechanically fastened through the insulation with High Load LH Fastener and Polymer Membrane Batten or High Load Fastener and Trufast Deep Well Coiled Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 S, DynaPly T1 or DynaLastic 250 S adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq

Membrane: One ply of One ply of DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq. while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type II: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank for new construction, ¹⁵/₃₂" or greater plywood or wood plank fastened with #8 screws @ 6" o.c. to wood supports spaced a maximum 24" o.c.

System Type D(3): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, ENRGY 3.E		
Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load Fastener & APB Plates or High Load Plates spaced 9" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One ply of DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: -60 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type II: Wood, Insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank for new construction, ¹⁵/₃₂" or greater plywood or wood plank fastened with #8 screws @ 6" o.c. to wood supports spaced a maximum 24" o.c.

System Type D(4): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI, ENRGY 3.E		
Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Base Sheet: One ply of DynaFast 180 S mechanically fastened through the insulation with High Load Fastener & APB Plates or High Load Plates spaced 9" o.c. in the center of the minimum 4" torch welded side laps.

Ply Sheet: (Optional) One or more plies of DynaFast 180 S, DynaPly T1 or DynaLastic 250 S adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq

Membrane: One ply of DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in MBR Cold Application Adhesive at a rate of 1.5-2 gal./sq. or approved asphalt with the EVT range at a rate of 20-40 lbs./sq. while maintaining 4" side laps and 6" end laps.

Maximum Design Pressure: -60 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 1: Wood, Non-insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank decks for new construction, ¹⁵/₃₂" or greater plywood or wood plank attached with minimum 8d ring shank nails spaced 6" o.c. to wood supports spaced a maximum 24" o.c.

System Type E(1): Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: Two plies of PermaPly 28, DynaBase, GlasBase Plus or Ventsulation Felt fastened to the deck as described below:

Fastening: Base sheet shall be lapped 4" and fastened with Ultrafast Fastener and UltraFast Square Recessed Metal Plate 9" o.c. in the 4" wide side lap and two rows staggered in the center of the sheet 12" o.c..

Ply Sheet: (Optional unless a GlasKap membrane listed in the membrane options is used.) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaMax S, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S or DynaPly T1 adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: One or more plies of One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Or
(Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap, GlasKap Plus or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:
1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq.
2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7).



Membrane Type: SBS

Deck Type 1: Wood, Non-insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank, fastened with #12-3" Olympic STD screws @ 6" o.c. to wood supports spaced a maximum 24" o.c.

System Type E(2): Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: One ply of GlasPly Premier, PermaPly 28 or Ventsulation Felt fastened to the deck as described below:

Fastening: Base sheet shall be lapped 3" and fastened with UltraFast Fasteners and UltraFast 3" Round Metal Plates or UltraFast Square Recessed Metal Plates 8" o.c. in the lap and three rows staggered in the center of the sheet 8" o.c..

Ply Sheet: (Optional unless a GlasKap membrane listed in the membrane options is used.) One or more plies of DynaBase, DynaBase PR, DynaBase XT, DynaMax S, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaFast 180 S, DynaLastic 250 S or DynaPly T1 adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base, DynaBase HW, DynaWeld 180 S, DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded.

Membrane: One or more plies of One ply of DynaGlas 30 FR, DynaGlas, DynaGlas FR CR, DynaGlas FR, DynaGlas FR CR G, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 FR CR, DynaLastic 180 FR CR G, DynaGlas FR XT, DynaKap FR T1, DynaKap FR T1 CR G, DynaLastic 250 FR, DynaLastic 250 FR CR, DynaLastic 250 FR CR G, DynaMax FR, DynaMax FR CR, or DynaMax FR Plus adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR, DynaWeld Cap FR CR, DynaWeld Cap FR CR G, DynaWeld Cap 180 FR CR, DynaWeld Cap 180 FR, DynaWeld Cap FR XT, DynaWeld Cap 250, DynaWeld Cap 250 FR, DynaWeld Cap 250 FR CR, DynaWeld Cap 250 FR CR G, DynaKap FR T1 HW CR G, DynaMax FR HW, or DynaMax FR HW CR heat welded.
Or
(Requires to be used with a Modified Bitumen Ply Sheet listed above.) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:
1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq.
2. (Optional with FR membranes) Henry 280 in two coats applied at a rate of 1.0 gal./sq./coat.

Maximum Design Pressure: -52.5 psf. (See General Limitation #7).



WOOD DECK SYSTEM LIMITATIONS:

1. A slip sheet is required with Ply 4 and Ply 6 when used as a mechanically fastened base or anchor sheet.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.

Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.

5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 16-0413.17
Expiration Date: 07/19/21
Approval Date: 07/14/16
Page 26 of 26